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China.

THE MILITARY ESTABLISHMENTS AND DISCIPLINE OF THE CHINESE.

The difficulty, not to say impossibility, in more modern times, of procuring authentic information on this subject, induces us the more readily to avail ourselves of the details furnished by the enlightened and indefatigable zeal of those who, towards the close of the last century, were enabled, by the opportunity of then existing circumstances, to penetrate into the interior of a country that has been closed, as a sealed book, to the research and enterprise of the nineteenth century. When we consider the proverbial disinclination to change of any kind, which is the characteristic and avowed principle of the Chinese Government, we need scarcely hesitate to conclude that the lapse of comparatively a few years has wrought but little alteration in the state of things as they existed at the period to which we have alluded. The events of a century or so, of a period of time which, with the wavering and unsettled institutions of the rest of the world, might suffice, and has in many instances sufficed to change the entire face, political and social, of states and kingdoms, could vary but slightly, if indeed at all, the circumstances, the arrangements, and habits of a nation which, as is the case with China, boasts of the immutability of its institutions, reckoning its dynasties by thousands of years, as do others by centuries.

The supreme control of the entire Chinese army is vested, under the Emperor, in the five sovereign courts of mandarins-at-arms (*Où-quàn,*) viz., 1st, *Heou-fou*, or of the rear-guard; 2d, *Tso fou*, or left wing; 3d, *Yeou fou*, or right wing; 4th, *Tchong-fou*, or line of battle; 5th, *Tsien-fou*, or avant-guard. In these courts of the military mandarins there are to each a president and two assessors, who are all of them of the first and second degree of the first order, and for the most part puissant nobles, who have the command of the state-officers and soldiers of the palace-guard.

These five classes compose the supreme tribunal called *Yong-tching-fou;* and its president, or chief, is one of the most powerful nobles in the empire, inasmuch as his authority extends generally over all officers and soldiers, whether of the Court or of the provinces.

The mandarin commander-in-chief on the part of the Emperor, in the two provinces of *Quang-ton* and *Quan-si*, is termed the *Tsong-tou*. He is also receiver-general of the royal or imperial dues on salt, and of which he renders an account to the *Houpou* or comptroller at Pekin. He has for his guard, and at his disposition, five thousand of the troops, with a brigadier, four colonels, five lieutenant-colonels, ten captains and twenty lieutenants. His ordinary residence is at the city of *Tchao-quing*, distant twenty leagues from *Quang-ton*, whither he repairs on occasions of importance.

The second great officer is the *Fou-yuen*, or viceroy of the province, being at the same time lieutenant-general of police, and receiver-general of customs, as well maritime as inland. His guard is three thousand men, with a brigadier, two colonels, three lieutenant-colonels, six captains, and twelve lieutenants. His residence is at *Quang-ton*.

All candidates for rank or promotion in the army have previously to undergo a strict and searching examination before the *Heo-guen* or president-absolute of the examinations, which are held twice in three years at Quang-ton, and in each city of the first order in the provinces. For the degrees of dignity in the science of arms (*Où-quàn,*) the examining mandarin is to exercise his functions with the greatest rigor and severity towards the candidate, without respect for persons, and with no choice save in favor of merit. He is even forbidden to speak with any person whatever so long as he holds the appointment of examining mandarin: certain death is the consequence of the least malversation in his office.

The examination consists, in the first place, in seeing whether or not the candidates are perfect in the management of their horse: whether they can gallop at full-speed, without being thrown; use the bow when sitting steadily and firmly in the saddle, as also at full gallop, in either case hitting their mark. In the second place, they are examined as to whether they are capable of making a short and simple speech or address, but well conceived and to the point, and without committing a blunder, on such matter as may be proposed to them, relating to military science.

In 1728, the Chinese Emperor had a standing army of upwards of six hundred thousand regular troops. The writer of the letter from which we have extracted the foregoing particulars assures the gallant and princely personage to whom it is addressed namely, Prince Eugene of Savoy, that His Serene Highness, at the head of forty thousand or fifty thousand dragoons, would nevertheless be able to conquer the whole kingdom of China; and, he adds, that in so saying he does not imagine that he is paying him a very high compliment. Before the conquest of China by the Tartars, in 1643, it was a standing jest, according to d'Herbelot and other authorities, with the Western Tartars to affirm, in derision of the Chinese, that the neighing of a Tartar

horse was sufficient to put the whole of the Chinese cavalry to the route; and from the same authority we gather that even the Chinese-Tartar cavalry of this time had dwindled pretty much to the same condition. The Chinese themselves seem to have admitted the truth of the charge, but to have met the inculpation of cowardice by affirming that the neighing and snorting of the Tartar war-horse is naturally so frightful in its sound, as to strike a panic and terror into all horses of a different breed.

But to return to the discipline of the army. A mandarin, with the title of *Yen-tao*, has the superintendence-in-chief of all the horses kept in reserve for remounting the cavalry. For this purpose immense stables or barracks, walled in on every side, are distributed throughout the country. He is likewise superintendent-in-chief of all the grain which the provinces are bound to furnish every year to the Emperor, for the subsistence of the troops, and for the supply of the magazines of reserve, to which recourse is had in periods of dearth and consequent high prices; of all which he renders an account to the *Pou-ching-se*, and the latter to the *Fou-yuen*, or comptroller-general. A colonel-major, with the title of *Tching-cheon*, superintends the guard of the gates and ramparts of the capital, and has under him one lieutenant-colonel, two captains, and four lieutenants. A similar officer resides in each of the cities and chief towns of the empire.

All these mandarins, or general-officers, have under their control, and subject to their appointment or dismissal, as well in the chief towns as in the villages, a number of quartermasters, who keep a strict watch on every thing that passes, and make their reports with the greatest regularity.

The military arrangements above enumerated may be considered as applying exclusively to the purely Chinese authorities, as they continue to exist, notwithstanding the Tartar conquest before alluded to. We now come to the Tartar military appointments, which have a concurrent, and, as it were, an incorporated existence with the Chinese power.

The first of these Tartar officers is the general-in-command, or *Tsiang-kium:* he has at his disposition five thousand men, that is to say, two thousand Tartars and three thousand Chinese, annexed to their respective banners, eight in number, the whole Tartar nation being comprised under eight banners (*Van* or *Ban:*) the four first being the simple colors, yellow, blue, red, and white; and the other four bordered diversely with one or other of these four colors.

The second in command, or *Tou-tong*, is the lieutenant-general. Of these officers there are two in the capital, viz., "of the right" and "of the left;" the left being with the Tartars the post of honor. Each of them commands one thousand effectual or chosen men. In most of the other provinces the *Tsiang-kium* has four lieutenant-generals. The first for the avant-guard, the second for the left wing, the third for the right, and the fourth for the rear-guard, with a proportionable augmentation in the number of troops.

The officer third in rank is called *Cou-chan, i. e.* camp-master (maître de camp,) or colonel. Of these there are eight: four of the left, and four of the right.

The fourth is the *Tsang-ling*, or lieutenant-colonel of the cavalry. Of this rank, likewise, there are eight: four for the left, and as many for the right.

The fifth grade is that of captain of a cavalry company, or *Fang-yu*. Of these there are twenty for the right, and twenty for the left. The company consists of fifty. Each *Fang-yu* leads five: this makes two thousand men in all, exclusive of the officers.

The sixth rank is that of *Hiáo-ki-hiáo*, or lieutenant of cavalry. Their number is the same as that of the captains, and they are similarly distributed.

These officers, or mandarins-at-arms, wear each of them the special and respective mark of their dignity. To each company, moreover, there are attached five decurions or cornets, named *Pe-che-cou*, who are at the head of each line, composed of ten. They carry on their back a small flag or standard, and draw double the pay of a trooper.

The Chinese lieutenant-general, whose command is concurrent and incorporated with that of the Tartars, is always present in the line-of-battle, and is called *Tcông-kiûn*. He has three thousand men under his comman', nearly all of them infantry, as well archers as musketeers, divided into three regiments, the colonels of which are called *Yeou kié*, and who have each three lieutenant-colonels, or *Cheou-poei*, and these latter again two captains, *Tsien-tsong*, and each captain two *Pâ-tsong*, or lieutenants.

The chief officer of the Chinese militia is called *Ti-tou:* he is the general-in-command of the troops raised in each province. The *Ti-tou* of Quang-ton does not reside in the metropolis where the Tartar general holds his head-quarters; but at *Hoei-tcheou*, a city of the first order, nearer to the sea-coast, and in the province of *Fokien*. He has under his orders five thousand men, one thousand cavalry, and four thousand infantry; five colonels, of whom one is brigadier by brevet; five lieutenant-colonels, ten captains, and twenty lieutenants.

The second is the *Tsong-ping*, or lieutenant-general. He commands three thousand men, distributed under three colonels, who have, like the above, their subaltern officers. In each province there are six.

The third is of the rank of field-martial, or *Fou-tsiang:* of these there are twelve.

The fourth rank, consisting also of twelve, is that of *Tsang-tsiang*, or brigadier.

The fifth, who is a colonel, is called *Yeou-kie:* his regiment consists of one thousand men, two hundred horsemen and eight hundred foot.

The sixth is the *Cheou-poei*, or lieutenant-colonel. He follows immediately after his colonel, at the head of his one thousand men, whom he commands in his place of residence, whether the colonel be present or not.

The seventh is the *Tsing-tsong*, or captain of a company of five hundred men, one-fifth of whom

are horsemen, and the rest infantry; each captain has under him two lieutenants.

The eighth, *Pa-tsong*, or lieutenant of a company.

The Chinese have no ensigns; the colors are borne by common soldiers, chosen from amongst the rest on account of their muscular strength and robust stature.

To the above may be added the inferior officers, named *Pè-tsong*, or "leaders of a hundred," and who, as their name imports, are at the head of one hundred soldiers, and receive double pay.

The province of *Quang-ton* alone gives thirty-six thousand troops as its ordinary quota, viz.:

For the *Tsong-tou*, or commandant-general,	5,000
" *Tsiang-kiun*, or Tartar-general,	5,000
" *Ti-tou*, or Chinese-general,	5,009
" 6 *Tsong-ping*, or lieutenant-generals,	18,000
" *Foû-yûen*, or viceroy,	3,000
	36,000

The Tartar general keeps the whole of his troops quartered at his place of residence, which resembles a separate city, surrounded by walls, in the very centre of most of the capital towns. The Chinese generals divide theirs through all the towns and provincial districts. That of Quang-ton contains ten cities of the first order, nine of the second, and seventy-four of the third. But as in these places of the third order there are some that are mixed up with those of the first and second, only seventy-four walled towns are counted in the province, in each of which, according to its extent and importance, a sufficient garrison is distributed to maintain the people in subjection.

The number of families in this one province, and it must be borne in mind that this is only one, and amongst the least, of fifteen, is, according to the most recent returns (1728) of the population of China, 483,360. That of the men, without reckoning the women or children under twenty years of age, is 1,978,000. The whole population of China, as estimated by our authority at about the same period, was 10,128,790 families; and without reckoning the princes of the blood, the ministers of state, the nobles, the officers, as well of police as the military, the bonzes or priests, the eunuchs, women and children, the number of male inhabitants of the class of the common people, above the age of twenty-one years, is computed at 58,916,800, exclusive of a prodigious number of people that live habitually in vessels and rafts, so that the water appears as thickly peopled as the earth. The Portuguese, when, in 1517, they penetrated for the first time into China, astonished at the vast extent of its population, gravely asseverated in the accounts they sent to Europe, that the Chinese women usually bore twelve children at one birth.

This enormous population, however, far from adding strength to the country in times of invasion, would appear to have but conduced to its speedier subjection by a fierce and determined enemy: a circumstance that reminds us of the terrible repartee, attributed to Attila, the scourge of the West, who, when admonished as to the dense population of the countries he was about to attack, replied, "That the sickle gathered more abundantly in a thickly-sown field than in a thin or barren one."

We have before seen that the Chinese cavalry is not over-remarkable for its steadiness in a charge; nor is even that of the Tartars, according to the best testimony, including that of d'Herbelot and Galand, entitled to very much greater eulogium on the score of discipline. As Cæsar describes the first onset of the Gauls, so is the first charge of the Tartar cavalry, characterized by its fierceness and impetuosity: but the slightest check, or failure of sudden and complete success, is sufficient to convert the attack into as sudden a rout and confusion, from which all attempt to rally them is hopeless.*

As regards the general government of the army, although the supreme control is, as we have seen, vested in one particular court, of which the mandarins composing it are constituted sole judges, yet can no matter of importance be carried into effect without the joint help and mutual concurrence of the other courts of the empire, or, as we should term it, of all branches of the executive. Thus, in the instance of war, the number of the troops, the quality of their officers, the march of the armies, &c., are provided for by the fourth court, but the money to pay them must be had from the second.†

The great principle of the Chinese policy is to keep up, in time of peace as well as war, great and well-appointed armies, in order, not only to maintain credit and respect from their neighbors, but also to stifle, or rather prevent, any disturbance which may happen at home. Heretofore a million of soldiers were set to guard their great wall; a less number than that, also, to garrison their frontiers and great towns, would have been too little: now they think it enough to keep garrisons in their most important towns.‡

Besides these standing forces there are fifteen or twenty thousand men in each province, under the command of private officers: they have also soldiers to keep their islands, especially Haynan and Formosa. The horseguards of Pekin are above one hundred and sixty thousand; so that, in the greatest and securest peace, the Emperor has in pay and at muster no less than five million effective men, all armed, according to the custom of the country, with scimitars and darts. They have but a very small infantry, and of those which they have there are no pikemen, and very few musketeers.§

Their soldiers are tolerably graceful in appearance, and pretty well disciplined, for the Tartars have almost degenerated into Chinese; and the Chinese continue, as they always were, soft, effeminate, enemies of labor, and better at making a handsome figure at muster or in a march, than at behaving themselves gallantly in action. The Tartars begin

* Supplement a la Bibliotheque Orientale, &c. M. d'Herbelot, ed. Paris, 1780, p. 195.

† P. Louis Le Comte, Jesuite, Lettres concernant La Chine.

‡ Ibid.

§ Ibid.

with heat and briskness, and if they can make their enemies give ground in the beginning, then they can make their advantage of it; otherwise, they are unable to continue an attack for any length of time, or to bear up long against one, especially if made in order and with vigor. The Emperor himself (Cam-Hy, a great favorite, by the way, with the missionaries) gave this short character of them; "*They are good soldiers when opposed to bad ones, but bad when opposed to good ones:*"* an eulogium with which, we presume, the faithful warriors of his Celestial Majesty were, as in duty bound, considerably flattered.

The rations of the troops in garrison consist of meat, fish, rice, peas, and straw, according to every one's rank, and which are served out to them daily, besides their constant pay, which they regularly receive.† In Pekin, the military magazines of reserve are kept constantly stored with rice sufficient for three years' consumption. This rice, it appears, will keep a great while if it be well fanned and mixed; and though it is neither in appearance nor in taste comparable to new rice, yet it is much more wholesome and nourishing.

Our worthy Jesuit, (he was one of the six mathematicians sent out to China by Louis XV,) although favorably enough disposed towards the Chinese in general, cannot, however, refrain from a shrewd hit at all this military display. "This numerous army about the Emperor, well looked after, duly paid, and exactly disciplined, one would think should awe all Asia: yet their idleness, and the small use they ever have occasion to make of their weapons, contribute to weaken them as much as their natural effeminacy. The Western Tartars do not value their numbers a straw, and frequently say, in derision of them, that the neighing of a Tartary horse is enough to rout all the Chinese cavalry." We have already seen the version, real or pretended, which the Chinese themselves give, respecting this boast of their Tartar-neighbors. And yet, according to our informant's own showing, it is from no want of military instruction and active drilling that the Chinese troops have earned so questionable a reputation for bravery in the field: for "their officers regularly exercise their companies, and form them into squadrons, march them, and teach them to divide their files, and to march through narrow passages; they show them how to give the onset, and to rally at the sound of the cornet or trumpet. Besides, they are very dexterous in managing their bow and handling their scimitar; *yet they are soon broken, and by the least thing put into disorder;*" an unsoldier-like peculiarity, for which the good father proceeds to account, in a manner that reminds us of the education of the youth of ancient Persia, who were taught two things *par excellence*, viz., *equitare et verum dicere*, to manage a horse and to speak the truth; the latter of which would appear to form no part of the Chinese education-system. "The occasion of this," Père le Comte adds, "I apprehend to be, because in the education of their youth they never instil into them principles of *honor* and bravery, as we do, as soon as ever they are big enough to know what weapons are. The Chinese are always talking to their children of gravity, policy, law, and government; they always set books and letters in their view, but never a sword into their hands. So that, having spent their youthful days behind the counter, or at the bar, they know no other courage but that of defending obstinately an ill cause, and are listed into the soldiery on no other consideration but that they hope there may be no occasion for fighting. The Chinese policy hinders thereby a great many domestic feuds and disturbances, but at the same time it exposes its subjects to the insults of foreigners, which is ten times worse."*

That the Chinese, to whom it is now settled beyond dispute the world is indebted, if indeed an obligation it be, for the discovery of gunpowder and artillery, should even at the present day have remained so far behind the rest of the world in its use and direction, can only be accounted for by the operation of those laws, which, as heretofore, was the case with ancient Egypt, it has been the unvarying policy of its government to oppose to the advancement of art and science, which accordingly, amongst a people otherwise confessedly gifted with talents and ingenuity of the highest order, have been doomed to remain fixed and stationary.

In the management of their heavy guns (the antiquity of whose use amongst them is incontestably established, by the relation of the famous naval victory of *Soum-lin*, as dating so far back at least as the year 1161, at which period the *Ho-pao*, or cannons, are spoken of as instruments of warfare in common and received use) the Chinese are, to this day, proverbially deficient; and if we are to credit the account of Father Verbiest, another of the Jesuits established in China, and a great favorite with the then Emperor *Cam-hy*, it is to him that the Chinese are indebted for the introduction of field-artillery. The circumstances are related by his brother missionary, Le Comte, and are so characteristic of the wily policy of what quaint old Burton calls "the Pope's janissaries, those land-leaping Jesuits," that they may probably afford some amusement to our readers.

Amongst the reasons which engaged the Emperor to favor the missionaries was the great talent of Father Verbiest, who, from his acquirements as a mathematician, and his skill in all sciences, was, in a short time, reckoned the most learned man in the empire. A rebellion which happened at this time put it into that missionary's power to do the crown a considerable piece of service. The rebellion here spoken of was that of *Ousanguei*, the famous Chinese general, who, having assumed the title of emperor, and gained over a number of the great provinces to his cause, was soon in a position to give serious disquiet to the court of Pekin. After the Emperor had tried many expedients to no purpose, he saw plainly that it was impossible to force the rebels from the places where they had entrenched themselves, without using his great artillery; but

*P. Louis Le Comte, Lettres concernant La Chine.

† Ibid, p. 305.

*P. Louis Le Comte, Lettre au Cardinal d'Estrees.

the cannon which he had were of iron, and so heavy, that they dared not carry them over such steep rocks, as they must do to come at him. He thought Father Verbiest might be of some assistance to him in this matter: he commanded the Father, therefore, to give directions for casting cannon after the European manner. The Father excused himself, saying, "that he had lived his whole life far from the noise of war, and that he was therefore but little versed in such affairs." He added also, "that being of the clerical order, and wholly employed in the concerns of another world, he would pray for his Majesty's good success; but that he humbly begged that his Majesty would give him leave not to concern himself with the warfare of this world." *

The Emperor, however, who seems perfectly to have known the character of the man he had to deal with, was not to be so easily deterred from his purpose by the excuses of the good Jesuit.

The Father's enemies (for a missionary is never without some) thought they now had an opportunity to undermine him. They persuaded the Emperor that what he commanded the Father to do was no ways opposed to the will or intention of the gospel, *and that it was no more inconvenient to him to cast cannon than to cast machines and mathematical instruments*, especially when the good and safety of the empire were concerned; that therefore, without doubt, the reason of the Father's refusal was, because he kept correspondence with the enemy, or at the least because he had no respect for the Emperor. So that at last the Emperor gave the Father to understand that he expected obedience to his last order, not only upon pain of losing his own life, but also of having his religion utterly rooted out. *This was to touch him in the most sensible part*, and he was indeed too wise to stand out for a *nicety or a scruple* at the hazard of losing all that was valuable. "I have already assured your Majesty that I understand very little of casting cannon," said he to the Emperor; "but since you command me, I will endeavor to make your workmen understand what our books direct in this affair." He took, therefore, upon himself the care of this work, and the cannon was proved before the Emperor, and found to be extremely good. The Emperor was so well pleased with the work, that he pulled off his mantle, and, in the presence of the whole court, gave it to Father Verbiest for a token of his affection.

All the pieces of cannon were made very light and small, but strengthened with a stock of wood from the mouth to the breech, and girt with several bands of iron, so that the cannons were strong enough to bear the force of powder, and light enough to be carried through any, even the worst, roads. This new artillery every way answered what they proposed from it. The enemy were obliged to leave their entrenchments in disorder, and soon after to capitulate; for they did not think it possible to hold out against those any longer who could destroy them without coming themselves within reach. †

Having alluded to the early invention and use of cannon and artillery by the Chinese, it may not be here out of place shortly to examine the question of the discovery of these mighty engines of destruction, and of their first introduction into Chinese warfare. Of all the authorities on this subject, the most acute and persevering is undoubtedly the learned Visdelou, Bishop of Glaudiopolis, the celebrated Oriental scholar, and annotator of d'Herbelot, the result of whose inquiries would seem to fix the first invention of cannon in China in the year 907 of the Christian era. The earliest authentic and direct mention of cannon, in the annals of China, is in the life of Prince *Tchim-kia*, as it is related in the history of the *Kin*, where it is said, "The fleet, which had left the embouchure of the river *Thiantchin-ouei*, about thirty leagues east of *Pekin*, sailed towards *Lin-ghan* (as *Ham-tcheou* was then called.) Having reached the island of *Soum-lin*, or the forest of pines, it met with a contrary wind, and was obliged to cast anchor. The next morning, at daybreak, the Chinese fleet appeared in sight. *Tchim-kia* was admonished to have everything in readinss for battle. 'How far is the enemy off from us?' inquired the Prince *Tchim-kia*. 'It is still at thirty leagues' distance,' was the reply; 'but as they have the wind in their favor they will soon be upon us.' The Prince, who had no notion of naval matters, would not believe it. Shortly afterwards the enemy's fleet was indeed within fighting distance, and, perceiving that the Tartar fleet was not in a posture of defence, *commenced a cannonade*. The Prince *Tchim-kia* was bewildered, and, casting his eyes in every direction, soon beheld his fleet on fire. In despair, he threw himself into the sea, and died at the age of 41." So far the history of his life. The history of the *Soum*, or Western Chinese, relates the event in somewhat different terms, in the life of *Li-pao*, admiral of the Chinese fleet, viz., "*Li-pao*, beholding the enemy's fleet in disorder, ordered the one hundred and twenty vessels he commanded to invest it, and to discharge *fire-arrows* upon it. The fire took everywhere the *arrows* touched, so that some hundreds of the enemy's ships were burned."

This second description, more detailed than the first, would seem to intimate that the Chinese fleet did not make use of actual "cannons" on the occasion, and that their vessels were merely mounted with catapults, that sent forth fire-dart brands, or as the history expresses it, *fire-arrows*, although, to say the truth, the term "fire-arrow" would as well apply to real cannon as that of *niao-tciam*, which signifies "bird-lance" does to a gun or fowling-piece. The first history, or that of the *Kin*, calls these machines, without any ambiguity, *ho-paos*, that is, *fire-balistas*, concerning which it is to be remarked, that the Chinese from all time, have made use of balistas and catapults, as well as the ancient Greeks, the former for throwing stones, and the latter for lancing thick arrows, or darts, according to the etymology of the two terms. The Chinese made use of the term *pao* to express both the one and the other; and to analyse the Chinese word, it is composed of the letter *che*, which signifies "a stone," and of the principal letter, *pao*, signifying "to seize, embrace, or

* Le Comte, Lettre a M. Rouille, Conseiller d'Etat.

† Le Comte, p. 369.

grasp round about;" thereby denoting that this machine, or engine, seized hold of the stone it threw. After the invention of gunpowder and fire-arms, it happened with them as it did with the Latins, who, having no proper term to denote a "cannon," made use of the ancient word *tormentum*, which comprehended alike in its signification the balista and catapulta of the Greeks; and in order to avoid ambiguity, they added *ignitum*, tantamount to our prefix of "fire." In like manner the Chinese have retained for "cannon" their ancient word *pao*, to which they have added the term *ho*, which similarly means "fire:" very often, indeed, they use the term *pao* by itself. It remains only to be observed that this battle took place in the year 1161 of the Christian era.

Visdelou proceeds to state, that he has for a long time, but in vain, made search in the histories of China for the first inventor of gunpowder and of cannon: apparently the Chinese themselves are equally ignorant of this fact, as of the precise period of the invention. In proof that such is the case, he quotes what he terms unquestionable evidence, namely, that under the reign of the last Emperor of the preceding dynasty all China was in arms. The rebels had seized on the finest provinces of the empire. *Tcoum-tchim*, the then reigning Emperor, knew not to what quarter to look for counsel. Towards the close of 1640, he convoked all the officers of his court to provide a remedy, for a disaster that was already irremediable. *Yam-jo-kiao*, the inquisitor-general of the empire, proposed to the Emperor the Rev. Father Adam Schall, (our friends the Jesuits again,) as a man well versed in the science of artillery. *Leou-tcoum-tcheou* advancing, made use of these words, "Before the dynasty of the *Tham* and of the *Soum*, fire-arms were never heard of. Since that they have been used in the army, all our strength has been made to consist in them. That is the true and only cause of the present ruinous condition of affairs, inasmuch as their use has led to cowardice." From the Emperor's countenance, it appeared plainly enough that this discourse of *Leou-tcoum-tcheou* was by no means well received. "Retire," said the Emperor, addressing him, "and know that the use of fire-arms is one of the prerogatives that China possesses over all other nations." This incident is taken from the history of the *Mim*, or last dynasty, c. 72, p. 51.

Two things are to be gleaned from this discourse: in the first place, that the Chinese themselves are ignorant of the author and date of the invention of fire-arms; and secondly, that their use was introduced under the dynasty of the *Tham*, that is to say, previously to A. D. 907, which was the last year of that dynasty. There is to be found, however, no certain vestige of this important discovery in the history of the *Tham*, unless, indeed, what is there related under the head of "The Five Elements" may be considered as bearing on the subject; namely, that in the year answering to A. D. 620, the history remarks, as a prodigy, that a magpie had built its nest in the machine of a *pao* that was on the walls of the city of *Pou-tcheou*. It further adds, that during the siege of *Nan-yam*, by the troops of *Ghan-lo-chan*, another magpie built its nest in the machine of a *pao* that was in the town, and there brought up three little ones, who flew away as soon as their wings were strong enough. This last prodigy happened in the year 757. The machine of a *pao* may, indeed, be well admitted to signify the stock of a cannon, or even a cannon itself.

A passage, however, in the history of the *Soum*, in the chapter which treats of arms in general, would appear to be conclusive on the subject. In the year answering to A. D. 970, *Foum-ki-chim*, president of the militia court, and his colleagues, presented to the emperor, *Soum-thai-tcou*, founder of the dynasty of the *Soum*, fire-lances of a new invention. In the year 1000, a centurian of the marine forces, named *Tham-fou*, presented the Emperor, *Soum-tchin-tcoum*, with fire-arrows, fire-globes, and fire-traps. Three years afterwards, (A. D. 1002,) *Leou-youm-sii*, commander of a garrison, presented *hand-paos*. May not these fire-globes and fire-traps have been "bombs" and "shell?" and fire-*paos* "pistols?" In 1259 the city of *Cheou-tchun-fou* presented the Emperor *Soum-li-tcoum* with *thou-ho-tciam*, that is, in Chinese, "lances or darts vomiting fire." This lance, continues the history, had for its tube a hollow bamboo, in the bottom of which was placed a ball. When the fire was applied, the ball, as it flew out, made a noise similar to that of a *pao*, and which extended to fifty geometrical paces round about. There can be no doubt, after reading this passage, taken from the history of the *Soum*, of the use of cannon being known at that period; and this comparison of the noise made by the *thou-ho-tciam*, or musket, with that of a *pao*, or cannon, shows clearly enough that the *pao* was not the balista of the ancients; and at the same time, that the use of cannon in China was already well established, if not of great antiquity. The musket, or fowling-piece, is expressly termed "lance vomiting fire," a name that well applies to fire arms that do not carry to any great distance. To this day, indeed, the Chinese call a musket *niao-tciam*, literally, "a bird-lance." They would appear, therefore, to have given the name of "fire-lance," or rather of "fire-arrows," to fire arms of extensive range; a circumstance, by the way, that may lead to the conjecture, that the *paos*, or fire-*paos* of the Chinese fleet, mentioned above, were actually cannons for the discharge of "red-hot balls," by means of which fire and destruction were spread about in every direction. Of the actual use by the Chinese of these red-hot cannon-balls, at so early a period as A. D. 1232, an authentic instance is extant in the transactions of the siege of *Khai-foum-fou*, the then capital of the empire of the *Kin*, by the Moungols, wherein, amongst various other kinds of cannon, the besiegers had recourse to that terrific species of missile.

The few additional details respecting the numbers and discipline of the Chinese army furnished by more modern travellers would lead to the conclusion, that the Chinese army, at the present day, consists of about one million infantry and eight hundred thousand cavalry, a statement pretty nearly agreeing with that brought to Europe by the gentlemen who

accompanied the first English embassy to China under Lord Macartney. These numbers are inclusive of the Tartar banners. From the observation made by the embassy in their travels through the empire, there seemed nothing improbable in the calculation of the infantry, but they observed few cavalry. The pay of a Chinese foot-soldier amounts to about 2½*d.* English money and a measure of rice per day, though some of them have double pay. The pay of a horseman is double that of a foot-soldier: the Emperor furnishes a horse; and the horseman receives two measures of small beans for its daily subsistence. The arrears of the army are punctually paid up every three months. A horseman's arms consist of a helmet, a cuirass, lance, and sabre; the foot-soldier is armed with a pike and sabre, some, indeed, have fusees, or fire-locks, of a rude and indifferent construction, whilst others have bows and arrows. All these arms are carefully inspected at every review, and if found in the least rusted, or in bad condition, the inattentive soldier is instantly punished, if a Chinese, with thirty or forty blows of a stick; if a Tartar, with as many lashes.

As to the naval force of the Chinese, it would appear from the most modern accounts that it has undergone no change whatever during the last two hundred years. A late writer has declared that a single man-of-war would suffice to destroy the entire naval force of China.

Ages of the Sovereigns of Europe.—In respect of the ages of the fifty-two Sovereigns now reigning in Europe, we find that four of them are upwards of 70 years old, viz: the King of Sweden, who was, on the first day of the present year, within a month of his 80th year; the Pope, who is 78 years and 3 months old; the King of Hanover, 7 months beyond his 72d year; and the King of France, who is 70 years and 3 months old. The Sovereigns between 60 and 70 years of age, consist of the King of Wurtemberg, the Elector of Hesse-Cassel, the Grand, Dukes of Hesse-Darmstadt, Mecklenburg-Strelitz. Oldenburg, and Saxe-Weimar—ten in number. Those between 50 and 60 years of age are, the Emperor of Austria, the Kings of Bavaria, Denmark, Belgium, and Holland, besides minor Princes—making a total of thirteen. Among the fourteen who are between the ages of 40 and 50, are the Emperor of Russia, the Kings of Prussia, Saxony, and Sardinia, and the Grand Duke of Tuscany. There are but three between 30 and 40 years of age, of whom the King of the Two Sicilies is one. Six are from 20 to 30 years old, namely, the Sultan of Turkey, the King of Greece, the Queens of Portugal, and of Great Britain and Ireland, the Grand Duke of Mecklenburg-Schwerin, and the Duke of Nassau. And, lastly, there is one under 20 years of age—the Queen of Spain, who is 13¼ years old. We may add, that the Emperor of the Brazils, who is of European descent, has just attained his 18th year.

Pride, like the magnet, constantly points to one object, self; but, unlike the magnet, it has no attractive pole, but at all points repels.

Foreign Miscellany.

Steam Frigates.—When we observe the unceasing activity which is displayed by the French Government in the construction of a steam navy, the armament of our steam frigates becomes a subject of the deepest interest. At present, the batteries of our steam frigates do not appear to be at all proportionate to their size and cost. For instance, the Terrible, which is building at Deptford, will measure about one thousand eight hundred tons; her length will be two hundred and twenty-six feet; and she will cost, first and last, the expense of her engines included, about £90,000; nor does it seem that she could well be constructed for less money. She will be a splendid ship, her engines will be of eight hundred horse power, and yet she will only carry six guns. We have rated the total expense of building and fitting her out at £90,000, because her engines are contracted for at a cost of £40,200; and her other expenses, from the style of her construction, which is first rate, cannot be estimated at less than £50,000. The reason of her armament being so disproportionate to her size and cost is obvious. The weight of her engines is five hundred tons, and she is to carry eight hundred tons of coal; and thus about five hundred and forty tons only will be left for guns, stores, ammunition, water, &c. The remedy for this evil is not easily to be discovered.

When steam frigates are employed as single ships, or in distant voyages, the case appears to be remediless. But when steam frigates are designed to be component parts of the Mediterranean or Channel fleet, it should seem that they ought to be of a different construction, and to have greater capacities for sailing, so as to be able to accompany the squadron without using their engines; and whilst their steam-engines should be of equal power, they should carry only two hundred tons of coal, and thirty or thirty-six guns of very heavy calibre. In the event of a great naval engagement their steam would thus be just as serviceable as if they had eight hundred tons of coal on board, for few naval engagements last more than one or two days; and they would, thus armed, be very formidable ships in general action, where the great object is to cripple each of the enemy's ships in the shortest possible time. If coal-reservoirs be deemed advisable, a few of our 42-gun frigates might be used for this purpose, and carry each of them five hundred tons of coal, and accompany the fleet. The subject is well worthy the consideration of the Board of Admiralty. At present our largest steam-frigates do not carry a larger armament than that which the razeed Dædalus is designed to carry, viz., two very heavy pivot 42-pounders, and fourteen heavy guns, probably 68-pounders of 65 cwt.—*English Naval and Military Gazette.*

Duelling in the British Navy.—The following order is contained in the new Admiralty instructions to the officers of the British Navy:

"1. Every officer serving on board any ship or vessel of her Majesty's fleet is hereby positively ordered neither to send nor accept a challenge to fight a duel with any other person of the fleet.

2. Every officer of the fleet, on becoming privy to any intention of other officers to fight a duel, or having reason to believe that such is likely to occur, owing to the circumstances that have come under his observation or knowledge, is hereby ordered to take every measure within his power to prevent such duel, having recourse, if necessary, to the captain or commanding officer.

3. Every officer of the fleet is hereby ordered in no manner or degree to evince dissatisfaction with, or to upbraid another officer for refusing or not sending a challenge, and all officers are strictly enjoined neither to reject, nor advise the rejection of a reasonable proposition for the honorable adjustment of differences that may have unhappily occurred.

4. Any officer of the fleet who may be called on to act as second or friend to an officer intending to fight a duel, is to consider it to be his imperative duty, and he is hereby ordered, strenuously, to exert himself to effect an adjustment between the adverse parties, on terms consistent with the honor of each, and should he fail, owing to the determination of the offended parties not to accept honorable terms of accommodation, he must refer to the second paragraph of this order.

As obedience to orders is the essential and governing principle of the naval service, those officers may rest assured of the support and approbation of the Admiralty, who, having had the misfortune of giving offence to, or having injured or insulted others, shall frankly explain, apologize, or offer redress for the same, or who, having had the misfortune of receiving offence, injury, or insult from another, shall cordially accept frank explanation, apology or redress, for the same, or who, if such explanation, apology, or redress, are refused to be made or accepted, shall submit the matter to be dealt with by the captain or commanding officer of the ship or fleet; and every officer who shall act as hereintofore directed, and consequently refuse to accept a challenge, will be deemed to have acted honorably, and to have evinced a requisite obedience, not only to this order, but also to the pleasure of the Queen."

THE STEAM NAVY OF GREAT BRITAIN.—We learn that a new war steamer has just been laid down at Portsmouth, to be called "the Scourge." Really, the "Christian" names given to these vessels are worthy of an enlightened age. "The Beelzebub," "the Infernal," "the Styx," "the Acheron," "the Firebrand," and "the Scourge," form as cheerful a collection as could be wished for. We can only suggest, as an improvement, that the Blue and White uniform of the Steam Navy be changed to Black, turned up with brimstone.

THE DUTCH NAVY.—The Dutch navy consists of the following ships: two of 84 guns, five of 74 guns, two of 60 guns, one of 54 guns, eleven of 44 guns, three of 32 guns, nine of 28 guns, one of 26 guns, two of 20 guns, eleven of 18 guns, one of 16 guns, ten of 14 guns, one of 12 guns, two of 8 guns, five of 5 guns, and four of 4 guns, in all seventy-two vessels, with 2087 guns. Besides these, are one ship for exercise, nine war steamers, six transports, and seventy-seven gun boats of various sizes. The corps of officers consists of one admiral, two vice admirals, three rear admirals, twenty-one captains, thirty-one captain-lieutenants, two hundred and seventy-two lieutenants, and sixty-six midshipmen.

THE BRAZILIAN NAVY.—A flattering account of the Brazilian navy, and institutions for the formation of officers and seamen, occupies nearly a column of the Journal des Debats. It consisted, on the 1st of January, 1843, of seventy-six vessels, carrying in all six hundred and eighteen cannon, a ship-of-the-line, two frigates of sixty-two guns, and one of forty-four, included. The policy of the government is to increase it as much as possible, and the Debats thinks that Brazil, with her seaports on so extensive a coast, and her abundant timber and other materials, may one day rank among the most considerable maritime powers.—*Transcript.*

VENTILATION OF STEAMBOATS.—One of the Addicombe professors, Lieutenant Cook, R. N., F. R. S., has invented a method of ventilating steamboats. A cylinder, with two valves at each end—through one, opening inwards, fresh air is admitted into a vacuum, which is, by the next action of the piston, forced through the other valve at the same end, opening outwards into tubes, and by these conveyed to every cabin upon each deck; while the hot or foul air, is at the same time drawn off from these cabins into a vacuum above the piston. One two feet in diameter would force in about six hundred gallons of fresh air (drawing off the same quantity of impure air) every minute! Large steamboats might have two cylinders. The fresh air would be conveyed in a regular stream, and not be intermitting in its effect.

TELEGRAPHS.—The Government in Paris receive by telegraphic means intelligence from Calais in three minutes, conveyed through 27 stations; that from Lille is conveyed by 22 stations in two minutes; from Strasburg, by 46 stations in six minutes; from Lyons, by 50 stations in eight minutes; and from Brest, by 80 stations in eight minutes also.

A BIG SHIP IN A LITTLE DOCK.—It has created considerable sensation in Bristol that the steamship Great Britain, which has been so long building by the Great Western Steamship Company, cannot be removed out of dock, having been built so large, and her dimensions having so much bulged and swollen. Mr. Burnel and other engineers have inspected her in dock, and suggest, as the only mode whereby to effect her egress, that certain parts of the vessel shall be taken to pieces, particularly the large wheel and the screw propeller. Mr. Edmonson suggests that the experiment of hauling her up out of the dock by means of cranes and magnetic power should be resorted to.

National Institute.

ON THE SMITHSONIAN BEQUEST.

BY THE HON. RICHARD RUSH, OF SYDENHAM NEAR PHILADELPHIA.

READ BEFORE THE MEMBERS AND FRIENDS OF SCIENCE AT THE NINTH SESSION OF THE CONVENTION OF THE INSTITUTE, ON MONDAY, THE 8TH OF APRIL, 1844.

In submitting a paper to this meeting of the friends of the National Institute, under a circular I had the honor to receive from its committee, I take as the subject of it the Smithsonian Bequest.

I desire to give expression anew to regrets which, as one citizen of the United States, I feel at this bequest not having yet been used as the testator directed. I say anew, having on former occasions expressed them as a corresponding member of the Institute; and I can only seek excuse for doing so again in the interest of the subject, which may even bear to have some things repeated in regard to it, that the impression of facts may not be lost. As long as this bequest remains unapplied, the cause of science and letters suffers in its whole extent, and the United States are liable to the charge of not performing a duty.

How does the case stand, in a few words?

Mr. Smithson left to the United States more than one hundred thousand pounds, to found, in this city of Washington, an institution "for the increase and diffusion of knowledge among men." The United States accepted the bequest. They thus became bound to do what the testator enjoined. Their acceptance raised a trust high in its nature and clear in its terms. They sent an agent to England, the country of the testator, to get the money. It had been lodged in the Court of Chancery, waiting the decision of the law, all the heirs of Mr. Smithson being extinct, or supposed to be so; and this was the contingency upon which his fortune was to go to the United States. The case was one of the first impression. It was new to the archives of the tribunal which had cognizance of it, and excited, by its nature as well as novelty, curiosity and attention in that kingdom. The Crown forbore all claim, on the ground of escheat or otherwise, to the derelict property of the deceased, for the sake of giving speedy and unobstructed effect to the claim of the United States. The will contemplated highly beneficent ends, and, admitting that English law would have sustained it in favor of a foreign nation against any opposition, substantial or technical, which the Crown might have interposed, there was still a liberality and grace in the promptitude with which its representative in the Court of Chancery gave way in favor of the United States, then for the first time appearing as demandants in an English court. Their agent obtained the whole money without stint, and they have now been in possession of it nearly six years. Yet it remains as a thing of no use in their hands.

The fund belongs to us all. Every citizen of the United States has a share in it. As such, every citizen may respectfully but earnestly urge upon Congress its legitimate appropriation, that the blessings bound up with it may no longer be suspended. The longer this suspension continues, the more the fund is thrown upon risks of never being used at all; and already has part of a generation of men been deprived of its benefits. If not beneath the dignity of the United States to accept the trust, the duty of executing it follows. That duty ought to be performed with reasonable promptitude. If nearly six years be not an ample allowance of time for the wisdom of a nation to determine what is to be done under such a will, the task of ever knowing seems discouraging. I say so with the greatest deference to other opinions, giving utterance only to my own; and having fully supposed, whilst pleading two years ago for bringing the fund into activity, that I was free *then* from the error of haste. Acts of legislation upon momentous and complex subjects often pass within periods more circumscribed, without being chargeable with errors on this score. The most circumspect rule in legislation has seldom gone beyond the requisition to publish a bill one year, that it might be understandingly acted upon the next; and if there may be exceptions to this rule, it is not believed that the Smithsonian case forms one of them; and, supposing that it did, more than double the time implied by such a rule has run out.

Not to use this fund promptly, seems an unfit return for the comity of the tribunal that surrendered it up to us promptly; more promptly, it is believed, than was ever before known in the case of so large a sum once in the meshes of chancery. Whether this would have been done with a foreknowledge of the delay already witnessed, can only be a subject of conjecture. Non-user works forfeiture as well as misuse; and it is hardly perhaps an overstrained inference to say, that an anticipation of the former, such as has happened, might have forestalled the decree in our favor, in the unrestricted manner in which it was made. It is at least known that the English Court of Chancery is slow to part with trust funds under all ordinary circumstances, without full security that they will not be diverted from their object, or suffered to languish in neglect. That tribunal asked no such security from the United States. It would have implied the possibility of laches in the high trustee. Least of all could that suspicion have existed where the trust bespoke upon its face motives to exclude any other imagination than that of prompt performance. At that epoch our public faith stood in all things unsullied. This thought forces itself upon me. Would that I could drop it—would that it were not necessary to the pursuit of my subject!

But painful is the consideration, that, in the more recent circumstances of our country, there exists cause for augmented sensibility at our apathy under this beneficent will. History may be seen as well as read. Ours, under some aspects at present, is indeed too painful. The charge upon us of dishonesty has passed into wide belief, too wide to be effaced soon. To deny it will not efface it: we can only live it down. The impression has not been confined to any one nation among the great nations of the earth: it

pervades entire and separate communities, whose united voices will go far towards making up the opinion of mankind. Affected by our intercourse and smarting under losses, they have been little inclined to discriminate between the demerit which denies just debts, and that which, after contracting them, deliberately, utterly fails to pay them; and this in times of peace and plenty, when the productive powers of our country are as great as ever, and all industry in operation. In Holland, where sensitiveness to pecuniary honor is extreme, nothing excusing non-payment but insolvency, brought on in ways free from all exceptions, and accompanied by surrender of every thing, in that old land of former commercial grandeur and constant probity, and in communities adjacent, the taint upon our name is perhaps the deepest, though we may hear less of it. It is too deep every where. The subject, divested of all exaggeration and rhetoric against us, leaves enough in its naked truth to fill us with wo, and ought to rouse us to our duty.

At such a juncture, when we are viewed with a quicker eye than ever for the discovery of faults, when the friends of popular government every where are weeping over what has happened here, to lay ourselves open, even by a suspicious tardiness, to the imputation of not keeping faith with the great moral interests dependent upon this will, seems most especially unwise. It would be repudiation under a new form, reserved for our once glorious Republic to set the example of—the Republic that Washington founded. In this connection, who can think but in sorrow on the fact that two persons, of birth foreign to our shores, Smithson and Girard, should have selected, the one our whole Union, the other a leading member of it, as their instruments in faithfully using funds left for the increase and diffusion of knowledge in the world, and for the education, upon a vast scale, of orphans; and that twelve years should have elapsed in one case, and nearly six in the other, without witnessing the slightest fruits from their munificent endowments. All is still barrenness or blight to both benefactions. Not an orphan has been educated. So have perished the Frenchman's hopes. Not a step has been taken under the Englishman's injunction. So, thus far, has he mistaken his people. If dialogues of the dead could take place between these two generous-minded philanthropists, it would be easier to conceive what might be said than grateful to an American pen to recount it.

During the periods in question have we been careless in other fields? Have we been inert in things materials? Have we been slumbering over the *main chance?* Quite the reverse. Imagination can hardly group the sum of our achievements. It starts back at the wonders that have been going on; at the bustle, the enterprise, the duplication, the multiplication in our physical resources. What mountains have not been removed, what caverns not excavated, what waters not turned into new channels? But all will be in vain, if we are seeking a high name among nations; in vain the strides which agriculture, and manufactures, and commerce, and stupendous highways to develop and diffuse each, are making among us; or that our ships go to all seas, or that wildernesses disappear before our conquering industry; in vain our increase in population and all the elements of power; in vain, for the highest fame, all these and the high-sounding boasts that follow. They attest energy, and the freedom which gives it room to act; but in a country where Heaven has showered down its richest natural gifts these may co-exist with mediocrity and commonness of character, and in part are the results of a physical necessity. In vain, therefore, the whole, unless accompanied by those intellectual distinctions which alone confer, throughout all time, the most genuine and lofty renown. Truly and beautifully has a living writer remarked, that "whatever the power and prosperity of a State, whatever the accumulation of her wealth, or her boasted achievements and possessions, to her intellectual attainments must she look for her highest estimation; on her literature, her science, her arts, her pre-eminence in mind—on her solidity and effulgence in these must she depend for living dignity and deathless fame."

Ennobling the thought, that even nations cannot escape from the conditions by which individual man raises himself to immortality of fame; and if we as a nation, would reach the moral heights commensurate with what is to be our destiny in political power, it can only be through compliance with these indispensable and exalted conditions. Our freedom will subserve them, but it will give us poor fame without them. Equally may it swell our hearts with gratitude and joy that the true genius of our institutions will subserve these glorious conditions; but subordinate for ever will be our fame unless we comply with them.

The Smithsonian fund is small in reference to the greatness and prospects of this country; but it is a germ above price. It may be made a foundation in the intellectual career of our country. And here I come to a main purpose of this paper.

If it be asked in what way shall the fund be brought into activity, an answer is at hand. Let it be engrafted upon the National Institute. This is no original proposition of mine. It has been a well-considered opinion. It came first from the venerable Duponceau, and has met the concurrence of so many judgments entitled to respect as now to form what may almost be called and enlightened public opinion. Standing behind such leaders, I only come in with humble but earnest co-operation. I would say, then, clothe this Institute with it; it is now suffering for the want of funds, the only want that it knows. It is rich in zeal, rich in character, and already abundantly ripe in experience.

If allowed to touch upon only some of its claims I would go on to say, that it is an Institute which, through the spontaneous and honorable zeal of its members, and in a space more brief than has passed since the fund has been lying dead, has made advances in scientific and literary usefulness creditable to itself and to the country; an Institute composed of responsible public functionaries intermingling with eminent private individuals, and under this, as other features in its organization, a safe depository

of the fund, whilst the practice of its own duties has given assurance that it would administer it with ability; an Institute which has nobly toiled for a name and earned it, loving science for its own sake, and which now sees upon its list, as members or correspondents, distinguished men and learned asso ciations of foreign countries, in addition to those of our own. Confer it, then, I would repeat, upon an Institute thus already recommended in so many cardinal points to the public confidence and favor, and upon which Congress could impose all further conditions and guaranties necessary.

Besides the advantages in taking this Institute as a basis for giving effect to the will, fears start up that the fund may otherwise fall through. Delays produce delays. Long inaction deadens the mind to its duties and energies, or causes it to halt in indecision, or to be distracted by contrariety. An eminent judge, in delivering an opinion from the bench of the Supreme Court of the United States not long ago, remarked, that it had been with him "a subject of deep regret that notwithstanding the numerous, consistent, most solemn, and (with some few exceptions) to his mind satisfactory adjudications of that court in expounding the Constitution, its meaning yet remained as unsettled in political, professional, and judicial opinion as it was immediately after its adoption; and that if we were to judge of the next by the results of the past half century, there was but slight assurance that that instrument would be better understood at the expiration than it was at the beginning of the period."

To make the application in no irreverent sense to the Constitution—for much might be said to modify the ingenious extract—but under anxious feelings for the Smithsonian fund, if the founding of an entirely new and independent institution is thrown open as a debatable question at this time of day, in its whole compass and details, a long interval may pass before we hear of a final decision. After the procrastination and supineness already experienced, we should too probably see postponed through long years the consummation desired. Let us rather rejoice that further delay may be prevented by "laying hold," to use the words of the enlightened Duponceau well-nigh four years ago, of a trustworthy association already in successful operation, with its business-habits established, its official routine approved, and ready to become, under the control of Congress, which can so easily enlarge upon its foundation, the instrument for giving prompt life and value to the precious fund. We may thus at once free ourselves from the disadvantages and reproach of its being longer buried in oblivion.

Further and high inducements appeal to Congress for taking the subject in hand at once. Our political institutions are dear to us all. In looking to our progress under them, the predominance of blessings in the past justifies the best hopes of the future. But, partaking of the imperfection of human things, let us not forget that one tendency to danger in them is in the too intense and absorbing party passions which they are apt to engender. We are now upon the eve of the periodical agitation which a contest for the Chief Magistracy in so great a country must always bring with it, and which in all probability is destined to become more and more intense as time goes on. To expect its extinguishment would be idle, even if it were desirable; nevertheless, considerate men may seek, in the meliorating influences of letters and science, some counterpoise to the excesses to which this kind of agitation is prone under popular institutions. The "Royal Society" of London, that body whose annual volumes have made such contributions to the stock of knowledge for a century, was founded through the desire formed in a few contemplative minds to retire from the turmoils of political contention, consequent upon the civil wars in England. Happy might it prove, if, under such an analogy this present Congress would signalize its present session by enabling the National Institute to exert these meliorating influences. By investing it with the Smithsonian fund, and giving it the Smithsonian name, rational hopes might be cherished of creating pursuits at this political centre of our Union, thence to be diffused to its extremities, in the changed excitements of which salutary diversion might be found from the harsh collisions incident more or less to all political strife. Especially might resources grow up in such an establishment, under the diversified attractions of literature, science, and the arts, which the scope of the will would embrace, for the members of the legislative branch of our Government, annually assembling at Washington: so many of whom would know how to turn them to delightful and profitable pastime.

In conclusion, I must hope to be pardoned for obtruding an item of personality into this paper; but only as it bears on its main purpose.

When in England in 1838, on the interesting errand of procuring this fund, it was my fortunate lot to mix with some of the members of the Royal Society. From them I learned how esteemed and valued a member Mr. Smithson was of their ancient body. From them I received felicitations on obtaining for my country that fortune which he had expended almost exclusively in the cultivation of science; the pursuits of which constituted his passion and his pleasure, for his own sake, and that of his fellow-men every where. From them I heard ardent wishes expressed for the auspicious results of this fortune among us; as consonant to *his* intentions, and as instigated by feelings in themselves springing from sympathies which make the votaries of science a brotherhood in all nations. May I go a step farther and add, that the last occasion on which it was my grateful privilege to mingle in the atmosphere of that illustrious body, in whose presiding chair have been a Newton and a Davy, where also princes of the blood have been proud to sit, was over the festive board, at one of its accustomed assemblages for purposes merely social. The "feast of reason" was blended with the social flow; and then was manifested especial cordiality for the beneficial use of this munificent legacy in the new sphere of its destination.

If the recollection of such scenes, with many more kindred to them, bearing upon this noble fund while in course of recovery, be insufficient to raise in others anxious wishes for its application without more delay as the donor desired and enjoined, I hope that it may go some way towards accounting for their existence in me, and in excusing the strong expression of them upon which I have ventured; not stronger, however, than I sincerly believe to be due to sacred considerations of public faith, and to the dearest interests of the human mind.

RICHARD RUSH.

SYDENHAM, NEAR PHILADELPHIA, *March* 28, 1844.

LIST OF SOME OF THE PRESENTS RECENTLY MADE TO THE NATIONAL INSTITUTE.

Captain Proby Cautley, of the British army, Serampore, India, in a recent letter, announces that he has forwarded to the Institute, a collection of fossils from the Sivalic Hills, at the southern foot of the Himelaya mountains, between the Sutledj and the Juma, which he has directed his agent in Calcutta to deliver free of expense in Washington.

A collection of cryptogamous and other plants of New South Wales and New Zealand, from H. P. Sturges, United States Consul, Manilla.

Professor W. W. Mather, of the New York survey, has presented his various geological works.

J. H. Alexander, of Baltimore, his two Reports on the Manufacture of Iron, published by the Maryland Legislature.

Dr. Jackson, of Boston, has forwarded a collection of minerals, &c.

The skin of a female elk, (to accompany that of a splendid buck, formerly presented by him,) from Jos. Tuley, Esq., of Virginia.

A series of text-books, for the use of schools and colleges, from the author Prof. Davies, of West Point.

Dr. J. C. Habersham, of Savannah, has forwarded, by W. B. Hodgson, a box of very valuable fossils of the megatherium, &c., of Georgia, which, with various collections sent by the same gentleman and others on former occasions, constitutes a very valuable series of those interesting geological relics.

N. S. Jarvis, M. D., of the United States army, at Fort Jesup, has sent twelve jars of reptiles, &c., collected by himself.

Captain J. H. Aulick, of the United States navy, has presented a work on "Roman Imperial Medals."

Captain P. St. George Cooke, United States dragoons, Fort Leavenworth, has transmitted various specimens of natural history, and a pair of mittens made of the wool of a buffalo cow.

Several large volumes of splendid engravings, &c., from David Paul Brown, Esq., of Philadelphia.

Dr. G. R. B. Horner, United States navy, has presented three boxes, three bundles, and a glass case, containing one hundred and thirty-eight birds, fishes, minerals, plants, &c., chiefly collected by himself in a late cruise in the Delaware, 74.

Franklin Peale, Esq., chief coiner of the United States Mint in Philadelphia, has forwarded to the Hon John C. Spencer, Secretary of the Treasury, a full series of the national medals, forty-nine in number, struck in bronze, from the dies preserved in the mint, for the National Institute.

Donation of one hundred dollars from the Hon. Abbott Lawrence, of Boston.

Peter A. Brown, Esq., of Philadelphia, has presented a handsome copy of his Essay on Solid Meteors and Meteoric Stones, inscribed by the author to the National Institute.

Packages of continental money issued by New Jersey, Delaware, and Pennsylvania, the latter printed by Benjamin Franklin, from Thomas Pratt, Esq., of Philadelphia.

Henry Ledyard, Esq., Chargé d'Affaires of the United States at Paris, has just shipped from Havre, two boxes, the expenses of which he had paid from Paris to Havre, consisting of books, engravings, medals, &c., being a present from A. Vattemare, in addition to the splendid collections recently presented by him to the National Institute. In a letter to the Corresponding Secretary of the Institute, dated the 18th of March, Mr. Vattemare says:

"Amongst the works you will receive, although all are of great interest, there are some of worthy of your particular attention, viz: The collection of Laws, which will, I trust, be acceptable to your learned jurists. I beg you to be kind enough to inform the Hon. Chief Justice Taney of the arrival of this new token of regard from the French Bench toward the Bench of the United States.

"An Oriental Collection, published by order of the King, containing, first, 'The Books of the Kings,' by Aboulkasin Fordasi: translated, published, and expounded by Julius Mohl, with the original Arabic text, 2 vols. folio. Second, 'Le Bhagavata Puranà,' or the Poetical History of Krichna: translated from the Sanscrit by Eugne Burnouf, Member of the French Institute, &c., with the original text, 1 vol. folio. Third, 'History of the Persian Moguls,' in the Persian language, by Rachiel Eldin: translated into French by Quartremere, Professor of Oriental Languages at the College of France, Member of the French Institute, &c., preceded by a memoir of the life and works of the author, 1 vol. folio. Fourth, Specimen book of Types, from the Royal Printing Office.

"These four volumes are the most splendid typographical works ever published in France. They are presented as a token of admiration for the American typographers, by M. Le Brun, Peer of France, and President of the Royal Printing Office, to the National Institute.

"The works of Baron Walkenear, Augustin Thierry, Lenormant, Amedée Thierry, and St. Marc Girardin, are amongst the most valuable publications. The forty volumes and pamphlets presented by M. Champollion Figèac, will be read with great interest by those who desire information concerning Egypt and its antiquities. The lovers of the fine arts will view with delight the medals presented by our celebrated engravers, Barre, Bory, Domard, Gattaux, and Galle. The last named gentleman, though in his eighty-fourth year, desires, by his donation, to express his admiration for the industrious artists and mechanics of the United States.

"Members of Congress, having families with them in Washington, and others, will be interested in the highly finished lithographs (one hundred and thirty-eight in number) designed to teach the art of drawing. This beautiful collection is presented to the Institute by the artist, M. Philipon.

"The splendid and rare work, entitled 'Histoire Naturelle des Iles Canaries,' presented by Mons. Webb and de Bethune, is too well known to need commendation.

"*The Laocoon.*—A reduction of this magnificent piece of antique sculpture, executed on the original, with the newly invented machine of the celebrated engineer, M. Colas, will no doubt be one of the greatest curiosities of your metropolis. It is presented by M. Colas as a tribute of respect for his brethren, the American mechanics.

Domestic Miscellany.

U. S. FRIGATES CONSTELLATION AND UNITED STATES.

The Baltimore American publishes the following:

The U. S. ship Constellation, Com. Kearney, sailed from Boston, December 9th, 1840, and visited Rio de Janeiro, Cape of Good Hope, Johanna, Quallah Battoo, Rinang, and Singapore; and leaving Singapore February 5th, 1842, beat up the China Sea, touched at Ceicer de Mer, and arrived at Macao, March 22d, 1842. During the time the Constellation remained on the China station, the following ports were visited, viz: Macao, Hong Kong, Whampoa, Manilla, and Amoy. The Constellation was the first American ship-of-war that entered the inner waters, having passed both bars of the Canton river, and anchored at Whampoa. Leaving China May 22d, 1843, the ship reached the Sandwich Islands July 7th, and, after visiting the Islands of Oahu and Hawaii, sailed for Monterey August 28th. The ship anchored in Monterey Bay, September 15th, and sailed for Valparaiso, September 29th, which port she reached November 29th, 1843. After remaining twenty-five days in port, she sailed for Callao, and arrived there January 9th, 1844.

On the 20th of January, the ship being in all respects ready for sea, Commodore T. Ap Catesby Jones embarked in her, on his return to the United States, in compliance with the orders from the Hon. Secretary of the Navy, recalling him from the command of the Pacific Squadron; and after a pleasant passage of fifty-two days, unaccompanied by an incident of a serious nature, anchored in Rio de Janeiro, on the 12th of March, completing a cruise of three years from the date of her departure thence, on her cruise of circumnavigation.

The Constellation found at Rio the U. S. ships Columbus and Congress; the officers and crews in good health. On the 16th of March, the frigate Congress sailed for the river Plate, and on the 18th the U. S. sloop John Adams arrived at Rio in thirteen days from the former place. The John Adams, Commander T. A. Conover, was to sail in a few days for the United States, bringing as passenger the Hon. Charles Hunter, late Minister to the Court of Brazil.

The constellation left at Callao the frigate United States, the schooner Shark, and store-ship Relief. All well. Com. A. J. Dallas, with the Cyane and Erie, was supposed to be cruising among the Islands, and the period of his return to the coasts of Chili and Peru was unknown.

The Constellation arrived at Norfolk in forty-one days from Rio, having been absent from the United States three years four months and twenty-two days. During her cruise she logged in 491 days at sea, 158,000 miles. Commander S. F. Dupont, took in the ship at Rio de Janeiro.

The following is a list of the officers of the Constellation:

Commodore Lawrence Kearney.

Lieutenants, Henry Pinkney, Theodorus Bailey, H. H. Rhodes, M. G. L. Claiborne, James L. Parker.

Acting Flag Lieutenant, Napoleon Collins.

Lieut. of Marines, John George Reynolds.

Fleet Surgeon, Stephen Rapalje.

Purser, Nathaniel Wilson.

Professor of Mathematics, Thomas H. Perry.

Acting Master, Midshipman John Matthews.

Commodore's Secretary, Butler Maury.

Assistant Surgeon, J. W. B. Greenhow.

Midshipmen, John C. Beaumont, James Wilcoxson, B. L. S. Henderson, Earl English, John Walcutt, H. C. Blake, Charles Waddell, James Wiley, G. V. Denniston, W. G. Temple, K. M. McArann, M. P. Jones.

Pursers Clerk, J. S. Wright.

Passengers, Commodore T. Ap C. Jones; Commander S. F. Dupont; Lieutenant C. F. Wooster, U. S. Army; Mr. Henry La Reintre, Secretary.

A chronological table, showing the employment of the U. S. frigate United States, Captain James Armstrong, bearing the broad pendant of Commodore Thomas Ap C. Jones, while in command of the U. S. Pacific Squadron, from January 9th, 1842, to December 14th, 1843.

1842.	Sailed from	Arrived at	1842.	Days at sea.	Days in port.	Distance run on passage.
January 9,	Hampton Roads,	Madeira,	February 7,	29	34	3,590–2
February 11,	Madeira,	Rio de Janeiro,	March 8,	25	19	3,903–4
March 27,	Rio de Janeiro,	Valparaiso,	May 5,	40	1	4,852–4
May 7,	Valparaiso,	Callao,	May 15,	8	17	1,319
June 1,	Callao,	Valparaiso,	June 23,	23	7	3,083
July 1,	Valparaiso,	Coquimbo,	July 3,	2	27	181–4
July 30,	Coquimbo,	Callao,	August 8,	9	30	1,147–6
September 8,	Callao,	Monterey,	October 19,	42	33	5,516–4
November 23,	Monterey,	Oahu,	December 4,	12	3	2,262–2
December 8,	Oahu,	Monterey,	Decemb'r 23,	16	18	2,536
1843.			1843.			
January 11,	Monterey,	Mazatlan,	January 21,	11	38	1,496–6
February 28,	Mazatlan,	Valparaiso,	April 27,	57	24	7,124–4
May 21,	Valparaiso,	Callao,	June 7,	17	13	1,944–6
June 21,	Callao,	Hawaii,	July 23,	32	11	5,987–6
August 2,	Hawaii,	Oahu,	August 4,		15	196
August 20,	Oahu.	Nuhiva,	October 6,	14		8,036–6
October 7,	Nuhiva,	Tahita,	October 12,	47	1	860–6
October 20,	Tahita,	Valparaiso,	Novem'r 21,	5	7	5,384
December 5,	Valparaiso,	Callao,	Decem'r 14,	33	13	1,266
				10		

Total days at sea, . . .	419½
Total days in port, . . .	280½
Whole run, ...	60,689½

It confidently believed that the above table exhibits a degree of active cruising without a parallel in the annals of naval enterprise.

Certain it is that nothing approximating to like activity, in any other ship of our navy, has lately occurred. Upon a close inspection of the foregoing table it will be seen that the frigate United States, while bearing the broad pendant of Com. Thomas Ap Catesby Jones, as Commander of the Pacific Squadron, between the 9th of January, 1842, and the 14th of December, 1843, (twenty-three months and six days) sailed 60,689 miles, that she was four hundred and nineteen days at sea, and two hundred and eighty days in port, that she visited and held friendly intercourse with the ports of eight independent nations, that she was once at Madeira, once at Rio de Janeiro, four times at Valparaiso, four times at Callac, once at Coquimbo, twice at Monterey, twice at Oahu, once at Hawaii, once at Nuhiva, and once at Tahiti.

The longest stay she made in port, at any one time, was thirty-eight days at Mazatlan, Mexico, in the expectation of hearing from Washington in reference to the Monterey affair. Her longest passage from port to port was fifty seven days, from Mazatlan to Valparaiso, in making which 7,124 miles were run. In the passage from Oahu to Nuhiva, of forty-seven days, 8,036 miles were logged.

The foregoing service was performed without risk or hazard of any kind to the ship, nor was any loss or damage sustained further than a few steering sail booms and a main royal mast. The fore and main yards having been found defective were replaced by new ones, both made by the carpenters of the ship. Two sets of iron hawse pipes also proving defective (owing to bad castings) were replaced at Valparaiso.

During this cruize not one case of scurvy appeared among the crew, averaging five hundred, all told. Of casualties there were but two—one, a man lost overboard in the night, the other a case of fractured limbs by a fall on deck from the mizen topsail yard, from which, however, he is fast recovering.

ANOTHER LARGE GUN FOR THE PRINCETON.—Col. Josiah N. Bird, of this city, has contrived a mode of making large wrought iron guns, which has received the approbation of Captain Stockton, and a gun of the size of the "Peace Maker" is to be immediately constructed at the iron works of Messrs. Bird & Weld. We are promised a more particular description of the invention; but at present, we can only state that the process will be commenced by placing together, in the form of a cylinder, a number of wrought iron staves of the whole proposed length of the gun, and of proper breadth, and four or six inches in thickness. These will be held together by wrought iron hoops, lying close together, the whole length of the staves, and welded upon them.

Upon this row of hoops another of larger diameter will be laid, and these welded upon the former; and additional rows will be put on and welded to those previously on, until the desired thickness shall be obtained. The rim of the hoops will be about six inches wide, and they will be so laid that the middle of the rims in one row of hoops will cover the joints between those of the next smaller row. The sides of the hoops will be carefully turned smooth, before they are laid on. The rims of the hoops will be thicker at the ends than in the middle, so that when, after being put on in a heated state, the hoops cool and contract, they will bind those under them, not only upon the stave, but to each other, and thus present a resistance in both directions to the explosive force of the powder.

The proposed advantage of this mode of construction is that the welding of small pieces of iron, such as of one row of hoops upon the surface of the others, can be done perfectly: while it is scarcely possible to weld larger masses perfectly, or without destroying the strength of the iron.—*Trenton Gazette.*

From the Philadelphia Inquirer.

THE NEW LIGHT AT CHRISTIANA.

PHILADELPHIA, *May* 8, 1844.

DEAR SIR: It is with satisfaction that I inform you, that the new light at the mouth of the Christiana Creek, erected by me, has succeeded beyond all expectations.

I should have sent you an account of the experiment before this, but I thought it best to defer it until after the examination and report had been made by the Treasury Department.

Captain Prince, of the Revenue Marine, has made the examination and report, the substance of which you will find below.

The lantern is forty-seven feet above the level of the water, and contains ten gas burners adapted to ten reflectors fifteen inches in diameter. The apparatus for making the gas is very simple, and can be easily managed by any person who is capable of attending an oil light. The time required to make sufficient gas for three nights, which is seven hundred and fifty cubic feet, is from four to five hours, and costs only fifty cents. The former oil light cost three dollars and fifty cents for the same length of time.

Captain Prince, upon his examination of the light, found that one gas burner gave the same amount of light as three of the best oil lamps now used in light houses.

The power of the light from a single reflector is sufficient to enable a person to tell the time by a watch at the distance of one mile. And an old gentleman who lives on the opposite side of the creek, three quarters of a mile from the light house, informed the Collector of Wilmington that he could plainly see to read at his house by the light of the gas.

On Thursday last, Captain Prince and myself proceeded to Delaware city in the Revenue Cutter Forward, Captain Webster. The light at this place is truly beautiful. It is about twice the apparent size of Venus, and casts a reflection on the water the same as that planet. We were twelve miles distant from the Christiana light, and five miles from the Reedy Island, which is one of the best oil lights on the bay, and is sixty feet high. The former light was twice as great as the latter, although the distance was greater by seven miles.

I also examined the light from the Lazaretto, nineteen miles distant, and it appeared like a large bright star, although the light was nearly below the horizon.

I have no doubt that the same light at an elevation of two hundred feet could be seen at least forty miles.

Yours, very respectfully,

BENJ'N. F. COSTON, U. S. N.

Communication.

BURSTING OF THE PEACEMAKER.

By investigating the causes which have led to many late disasters, from the explosion of guns, and the ignition of charges during the process of loading, it may be possible to avoid such deplorable results for the future. The disasters to which I allude more particularly, are the explosions at Fort Monroe and that on board the Princeton; both productive of destruction to human life; and the loss of life in two cases in the act of loading, one on board the Somers, the other on board the Lawrence.

A defect in the process of loading I suggest to have been the cause of explosion in the Princeton, (the only case I propose in this number to consider.) My hypothesis is, that the defect arose from an erroneous inference, that, because a hard junk wad, made in the usual manner, will, without compressing, move a 24-pound ball, a similarly made wad, will also, without compressing, overcome the inertia of a 225 pound ball. An ordinary hard wad, placed in a cylinder, may, by the force of one person applied with screw power, be compressed to one half the original thickness. Between eight pounds of powder and a 24-pound ball, undoubtedly the wad undergoes compression, but not in so great a degree as between twenty-five pounds of powder and a 225 pound ball—the charge and weight of shot used, with a 10-inch wad between, as I am informed, on board the Princeton, in loading the Peacemaker, at the time of explosion.

Heavy bodies, from a state of rest, reach high velocities through increments, and not suddenly, although these increments may be rapid and take place in almost inconceivably small spaces of time. The more rapid the increments, however, the greater force required to produce them; and consequently the greater strength of parts necessary to resist or confine this force. A familiar illustration of this principle is seen in the effort often made to start a heavily laden wagon, by the sudden movement of a powerful team, the result of which is, rupture to the harness, or other gear, unless it be of great strength. If, however, the force of this same team be applied to produce motion in the wagon through more gradual increments, the highest velocity is obtained without strain or signs of violence.

So also, if a shot in a gun be moved, from a state of rest, to one of high velocity, through regular increments, the same law holds. If the force be so great, or be applied so suddenly, as to require increments more rapid than can take place, the gun bursts.

Dr. Hutton, Braddock, and others, lay down the law, that a charge of powder in a gun does not all burn simultaneously, as is proven by the fact that many grains are often blown out unburnt. It is probable that the ignition is successive, the charge exploding, pound by pound, until the whole mass is inflamed. When then, a shot lies directly against the charge of powder, the first pound that burns overcomes the inertia of the shot, and starts it from its seat; the second pound gives an increment; the third pound another increment, and so on, successive pounds as they burn communicating accelerated velocity, until, when the shot reaches the gun's muzzle, nearly all the powder is burned, and the highest velocity due to the charge has been communicated through increments so gradual as to produce no strain or signs of violence.

If however the shot be not rammed home against the powder, and several inches of vacant space be left between them, a considerable portion of the charge will have burned before the fluid reaches the ball, and instead of moving by the comparatively gentle force of successively igniting pounds, it is overtaken, in a state of complete rest, by the accumulated force of many pounds of inflamed powder, which demands vent in more rapid increments than can take place; and as the shot cannot, under these circumstances, yield rapidly enough to the immensely expansive force of the fluid, *it* makes a vent for itself by laying asunder the gun.

Suppose the space between a ball and charge, instead of being left entirely vacant, were filled with sponge. Although thus nominally filled, manifestly it is so imperfectly filled that similar results must occur. Suppose again it be filled with shakings; still it is but imperfectly filled. So also if it be filled by an ordinarily made hard junk wad of eight inches thickness, although that wad may move a 24-pound ball without much compression, and therefore fill the space between it and a charge perfectly enough, it does not follow that it will likewise fill the space, other than imperfectly, between a 64-pound ball and its charge, much less the space between a 225-pound ball and its charge of twenty-five pounds of powder. And in proportion as the space is imperfectly filled, does the case approximate to that of entire vacancy. This approximation increases with the weight of shot and charge of powder. What therefore will answer with a light shot or charge, may not also answer with a heavy shot or charge.

These views have received a practical corroboration at a late proof of heavy 32-pounder guns in Virginia, with sixteen pounds of powder and two shot. In some cases the two shot lay in the gun one against the other actually in contact, and when discharged moving off together as one; in other cases, a hard junk wad was placed between the two shot. The latter proved by far the severer test of the guns' strength, and many were burst.

The Peacemaker, and also the cast iron gun which previously burst, of the same weight, caliber, and chamber, were proven with about fifty pounds of powder, exactly double the charge they both burst with. It is often said those guns were not sufficiently proven. Whether the proof were high enough for a larger service charge or not, it certainly was high enough for a 25-pound service charge. From the capacity of chamber, however, and manner of loading, it is probable that the guns were more severely tried by 25-pound charges, than they had been in proof by 50-pound charges, because the 50-pounds filled the chambers, and permitted the balls

to lie against the charges, and consequently, when fired, to move off before successively igniting portions of powder; whereas, the twenty-five pound charges filled but a portion of the chambers, and although the spaces necessarily existing between the balls, laying at the mouth of the chambers, and the charges, were filled by 10-inch junk wads, those spaces were so imperfectly filled, considering the force of powder and resistance of shot acting upon the wads, as to have unquestionably tended very much to the results which ensued.

With the same object in view as expressed by your correspondent, "Cannonier," viz.: to draw attention to the causes of explosion, (especially in chambered guns,) and with no intention to reflect upon those who were engaged serving the great gun in question, or whose spirit of enterprise, zeal in improvement, and expanded views, conceived the plan of paralyzing the mammoth force of older navies, by bringing against them a few guns of such capabilities as to set at defiance and render useless the result of years of labor and treasures of money. I offer these suggestions, in the hope that others, more capable and experienced, will correct any errors of fact, or of inference, which I may have indicted. W.

ARMY.

ORDERS } HEADQUARTERS 3D MILITARY DEPARTMENT,
No. 9. } ST. LOUIS, MO., *May 4th*, 1844.

Extract.

5. . . The Colonel Commanding takes pleasure in recording his approbation of the high state of discipline acquired by the companies of the 4th infantry, under orders for Fort Jesup. The zeal and energy displayed by the officers, and the moral and exemplary deportment evinced by the men, entitle them to high commendation, and give the best assurance of their efficiency in time of need. He parts with them with regret, and assures them of his best wishes for their happiness.

BY ORDER OF COL. S. W. KEARNY.

S. COOPER,
Asst. Adjt. General.

Naval Intelligence.

Steamer *Union*, Lt. Com. Bell, went up to the Gosport Navy Yard last Monday.

HOME SQUADRON.—Brig *Bainbridge* arrived at New York from New Orleans on Friday.

BRAZIL SQUADRON.—Sloop-of-War *Boston* arrived at Rio Janeiro February 14th, eighty-seven days from Boston.

Flag-ship *Columbus* and frigate *Congress* at Rio Janeiro March 15th. All well.

PACIFIC SQUADRON.—The following are lists of the officers attached to the frigate *United States*, schooner *Shark*, and store-ship *Relief*, December 20th, 1843:

Frigate *United States*.—Captain, James Armstrong.

Lieutenants, James L. Lardner, Latham B. Avery, Washington Gwathmey.

Acting Lieutenant, Francis Winslow.

Lieutenant of Marines, G. W. Robbins.

Fleet Surgeon, Wm. Johnson.

Purser, Edward Fitzgerald.

Professor, H. H. Lockwood.

Chaplain, T. Bartow.

Assistant Surgeons, Wm. A. Nelson, M. B. Beck.

Captain's Clerk, Wm. Gamble.

Midshipmen, H. A. Colborn, Wm. Jeffers, Wm. H. Willcox, Wm. C. West, Samuel R. Franklin, A. C. Jackson, R. W. Scott, B. W. Stevenson, Wm. Sharp, T. Lee Walker, F. P. Baldwin, L. H. Lyne, H. H. Key, Edward T. Carmichael, Walter F. Jones, John J. Hanson, W. P. Toler.

Schooner *Shark*.—Lieutenant Commanding, Henry Eagle.

Lieutenants, Wm. H. Brown and Alex. Murray.

Assistant Surgeon, Wm. Grier.

Midshipmen, James Higgins, J. L. S. Beckwith, Wm. Nelson, Frederick A. Hallett.

Captain's Clerk, Solomon E. Cohen.

Store-ship *Relief*.—Lieutenant Commanding, Isaac P. Sterett.

Acting Lieutenant, Wm. L. Blanton.

Purser, Edward Storer.

Midshipmen, Wm. F. Spicer, F. S. Conover.

Purser's Clerk, Wm. Byers.

The frigate *Savannah*, Commodore Dallas, was at Callao February 24th, also store-ships *Relief* and *Erie*. The frigate *United States* had sailed two days previously for Mazatlan, and the *Shark* for Valparaiso. The sloop-of-war *Cyane*, Commander Stribling, was daily expected at Callao from the Northwest coast.

EAST INDIA SQUADRON.—Captain McKeever, U. S. N., will take passage in Mr. Wetmore's splendid new ship Montaug, to sail on this day for Canton. Captain McKeever goes out at the request of the department, to assume the command of the *St. Louis*, attached to the East India squadron, under command of Commodore Parker. Commander Payne also takes passage in the same vessel, to join the brig *Perry*, late under command of Com. Du Pont, relieved by cause of ill health.—*Norfolk Beacon, May* 14.

The brig *Perry* sailed from Rio Janeiro for the East Indies on the 10th February.

Frigate *Constellation* was towed up to the Navy Yard, Norfolk, on Friday last.

AFRICAN SQUADRON.—An arrival at New Orleans brings accounts to the 12th of March, at which time the health of the Squadron was perfectly good—no fever having appeared on board.

The *Saratoga*, Captain Tatnall, at Monrovia, was to sail for the Bight in a few days.

Marriages.

In Boston, on Thursday evening, the 2d instant, Lieutenant H. L. EUSTIS, U. S. Engineer Corps, to SARAH AUGUSTA, daughter of J. T. ECKLEY, Esq.

In Philadelphia, on the 7th instant, Lieutenant EDWIN J. DE HAVEN, U. S. Navy, to MARY, daughter of JOHN C. DA COSTA.

Death.

At Newport, Ky., on the 4th instant, Mrs. MARY AURELIA LEWIS, aged 39 years, relict of the late Captain ANDREW LEWIS, U. S. A., and daughter of the late DANIEL MAYO, of Newport.

May. ARRIVALS AT WASHINGTON.

8—Lieut. C. F. Wooster, 4th arty, Fuller's.
Capt. J. R. Vinton, 3d arty, Fuller's.
Professor J. W. Bailey, Mil. Acad., Gadsby's.
11—Asst. Sur. R. Southgate, Fuller's.
Capt. H. McKavett, 8th infy, Fuller's.
13—Lieut. F. O. Wyse, 3d arty, Gadsby's.
Major J. D. Graham, Top. Engrs., Brown's.

☞ *The Chronicle will be discontinued on the first of July.*